

סמינר - SEMINAR

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 26.03.2018 (י' בניסן, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 12:00.

מרצה:

Prof., Dr. Sc. George G. Ter-Mkrtichyan

Head of the "Fuel Systems" Department

Federal State Unitary Enterprise "Central Scientific Research Automobile
and Automotive Engines Institute" (FSUE "NAMI")

Russia

על הנושא:

Variable Compression Ratio Engines – recent development experience and trends

The seminar will be given in English

להלן תקציר ההרצאה:

In conventional engines, the compression ratio is a constant engines design parameter, such as, for example, the cylinder diameter. At the same time, the constant value of the compression ratio is not optimal. In gasoline (SI) engines, the compression ratio is lower than optimal and is limited by knock. In diesel (CI) engines, the compression ratio is higher than optimal and is selected to reliably start the cold engine.

With a decrease in the compression ratio at the full load mode, a power can be significantly increased due to the boost pressure rise. With an increase in the compression ratio at partial loads, the fuel consumption will decrease due to the growth of the thermal efficiency.

SAAB, Nissan, Mercedes-Benz, Peugeot, HONDA, TOYOTA and other engine OEMs are engaged in the development and research of engines with variable compression ratio. In the early 90s of the 20th century, the FSUE "NAMI" proposed a conversion traverse mechanism, which allows controlling the pistons movement, changing the compression ratio and engine displacement. In the FSUE "NAMI" based on various traditional mass-produced motors, more than a dozen of traverse engines were developed and investigated.

The use of the FSUE "NAMI" traverse mechanism for high-speed control of the compression ratio is a novel technical solution for implementing in the advanced Low-Temperature Combustion work processes: HCCI, Controlled Auto Ignition (CAI), Highly Premixed Late Injection (HPLI) etc.

מאת: ד"ר לאוניד טרטקובסקי

בברכה,

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מרכז הסמינרים